

CLAIMS

1. An apparatus for seaming a peripheral curl of a can end onto a flange of a can body, said can end having a wall extending radially inward from said peripheral curl and inclined between about 20° and about 60° with respect to a central axis of said can end, comprising:
 - a) a chuck for locating within said can end, said chuck comprising upper and lower circumferentially extending walls forming a juncture therebetween, said lower wall inclined away from said upper wall so as to form a driving surface between said upper and lower walls, said driving surface subtending an angle of between about 120° and 150°, said upper wall being substantially cylindrical; and
 - b) at least one seaming roll adapted to urge an upper portion of said inclined wall of said can end against said upper wall of said chuck so as to deform said peripheral curl and said flange into a seam joining said can end to said can body.
2. The apparatus according to claim 1, wherein said substantially cylindrical wall is inclined with respect to said central axis by not more than about 4° such that said driving surface subtends an angle of between 116° and 154°.
3. The apparatus according to claim 1, wherein said driving surface subtends an angle of between about 130° and 150°.
4. The apparatus according to claim 3, wherein said driving surface subtends an angle of between about 135° and 140°.
5. An apparatus for seaming a can end onto a flange of a can body, said can end having a circumferentially extending peripheral curl and a wall extending circumferentially and radially inward from said curl and an annular reinforcing bead extending radially inward from said wall, said reinforcing bead having an interior

surface, said peripheral curl comprising a seaming panel and a radiused portion extending from said seaming panel to said wall, comprising:

a) a chuck for locating within said can end, said chuck comprising (i) upper and lower circumferentially extending walls forming a juncture therebetween, said lower wall inclined away from said upper wall so as to form a driving surface therebetween, said driving surface subtending an angle of between about 120° and 150°, said upper wall being substantially cylindrical, and (ii) a downwardly extending annular bead, said chuck annular bead sized and located so as not to contact said interior surface of said can end annular reinforcing bead when said chuck is located within said can end; and

b) at least one seaming roll adapted to urge an upper portion of said inclined wall of said can end against said upper wall of said chuck so as to deform said peripheral curl and said flange into a seam joining said can end to said can body.

6. The apparatus according to claim 5, wherein said substantially cylindrical wall is inclined with respect to said central axis by not more than about 4° such that said driving surface subtends an angle of between 116° and 154°.
7. The apparatus according to claim 5, wherein said driving surface subtends an angle of between about 130° and 150°.
8. The apparatus according to claim 7, said driving surface subtends an angle of between about 135° and 140°.
9. The apparatus according to claim 5, wherein said lower wall of said chuck is adapted to drive rotation of said can end and said can body while said chuck is located within said can end.
10. The apparatus according to claim 5, wherein said juncture between said upper and lower walls of said chuck is adapted to drive rotation of said can end and said can body while said chuck is located within said can end.

11. An apparatus for seaming a peripheral curl of a can end onto a flange of a can body, said can end having a wall extending radially inward from said peripheral curl, comprising:
 - a) a chuck adapted to be located within said can end, said chuck comprising upper and lower circumferentially extending surfaces forming a juncture therebetween, said upper surface being substantially cylindrical, said lower surface extending inwardly and downwardly from said upper surface to an end point of said lower surface such that a line between the juncture and the end point of the lower surface is inclined between about 30° and about 60° with respect to a central axis of said chuck; and
 - b) at least one seaming roll adapted to urge an upper portion of said wall of said can end against said upper surface of said chuck so as to deform said peripheral curl and said flange into a seam joining said can end to said can body.
12. The apparatus according to claim 11, wherein said line between the juncture and the end point of the lower surface is inclined between about 30° and about 50° with respect to said central axis of said chuck.
13. The apparatus according to claim 11, wherein said line between the juncture and the end point of the lower surface is inclined between about 40° to about 45° with respect to said central axis of said chuck.
14. The apparatus according to claim 11, wherein said line between the juncture and the end point of the lower surface is straight.
15. The apparatus according to claim 11, wherein said chuck lower surface between the juncture and the end point of the lower surface forms a frustum of a right circular cone.
16. The apparatus according to claim 11, wherein said chuck further comprises a bead extending from said end point of said lower surface.

17. The apparatus according to claim 16, wherein said bead is circumferential.
18. The apparatus according to claim 16, wherein said bead does not have driving contact with a concave surface of a reinforcing bead of the end during seaming.
19. The apparatus according to claim 16, wherein said bead has an arcuate shape in cross section.
20. The apparatus according to claim 19, wherein an outer portion of said arcuate shape of said bead extends directly from the end point of the lower surface.
21. The apparatus according to claim 11, wherein said substantially cylindrical surface is inclined with respect to said central axis by not more than about 4°.
22. The apparatus according to claim 11, wherein said juncture between said upper and lower surfaces of said chuck forms a driving surface for contacting the end during seaming.
23. The apparatus according to claim 22, wherein said chuck between said juncture and said end point of the lower surface forms another driving surface for contacting the end during seaming.